

Fluorofil™ F45

ePTFE Membrane Cartridge Filters



Fluorofil™ F45 cartridges are manufactured using a highly hydrophobic ePTFE membrane offering exceptionally high gas flow rates at low pressure differentials.

Fluorofil™ F45 cartridges are recommended for gas filtration and venting applications. The hydrophobic characteristics of the ePTFE membrane makes the Fluorofil™ filter cartridge particularly suitable for wet gas applications, such as fermenter air feed. For solvent and aggressive chemical filtration applications, these cartridges offer a wide range of chemical compatibility with high thermal stability.

Ordering Information

Product Code:						
1: Membrane	2: Pore rating	3: Version	4: Length (Nominal)	5: End Fitting	6: Seals	7: Additional
F Fluorofil™	45 0.45µm	R Rinsed S Standard	1 10" (254mm) 2 20" (508mm) 3 30" (762mm) 4 40" (1016mm) 5 5" (125mm)	A Code 3 B Code 7 C Code 8 F N SOE G G DOE (short) H G SOE J 216 (218), fin K Code 2 L 223, fin (no lugs) M DOE S Code 28, fin (3 lugs) U 224, fin V 226, fin Y BS832, flat	A Ethylene Propylene B Silicone C Viton® D Nitrile E FEP Encap. Viton® G FEP Encap. Silicone J DOE PTFE	A N+U N Non-steamable (no insert) P Pharma Grade U Unbranded

Specifications

Materials of Manufacture

Filter membrane:	ePTFE
Membrane support:	Polypropylene
Irrigation mesh (support):	Polypropylene
Drainage layer:	Polypropylene
Inner core:	Polypropylene
Outer support:	Polypropylene
End fittings:	Polypropylene
Sealing:	Fusion bonding

Cartridge Dimensions (Nominal)

Effective Filtration Area:

Up to 0.69m² (7.4ft²) per 10" module

Diameter: 70mm (2.8")

Length: 1 module: 127mm (5")

1 module: 254mm (10")

2 modules: 508mm (20")

3 modules: 762mm (30")

4 modules: 1016mm (40")

Cartridge Treatment

Standard: Cleaned and flushed, without further treatment

Rinsed: Ultra-clean, pulse flushed to give a system resistivity of 18MΩ.cm

Gaskets and O-Rings

Ethylene Propylene, FEP encapsulated, Silicone, Viton® or Nitrile

Maximum Differential Pressure

Normal flow direction at:

20°C (68°F):	6.0bar (87psi)
80°C (176°F):	4.0bar (58psi)
100°C (212°F):	3.0bar (44psi)
120°C (248°F):	2.0bar (29psi)
125°C (257°F):	1.5bar (22psi)

Reverse flow direction at:

20°C (68°F):	2.1bar (30psi)
80°C (176°F):	1.0bar (15psi)
100°C (212°F):	0.5bar (7psi)

Operating Temperature

Maximum continuous: 80°C (176°F)

Sterilisation

In situ steam 50 x 20 minute cycles at 135°C (275°F).

Extractables

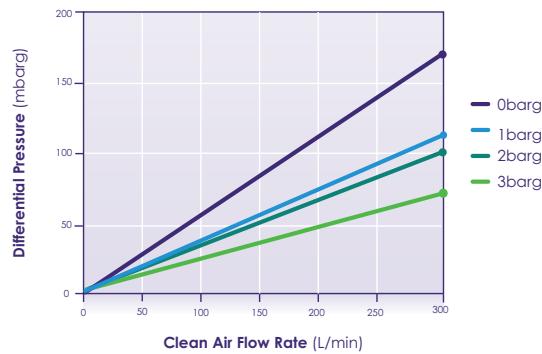
Minimum total extractables. Please refer to the Fluorofil™ F45 Validation Guide.

Integrity Testing

Each Fluorofil™ F45 module of every cartridge is individually integrity tested using the Diffusive Flow Test, which correlates to the HIMA and ASTM F838-20 bacterial challenge tests. Non-destructive integrity tests, such as Diffusive Flow, Water Intrusion, Pressure Hold and Bubble Point, can be performed by customers. Please contact Porvair for procedural details.

Gas Flow Rates

- Typical clean air flow rate: A 254mm (10") Fluorofil™ F45 0.45μm single cartridge exhibits the flow-ΔP characteristics indicated below.



Clean Water Flow Rates

(after Solvent Pre-wet and Water Flush)

- Typical clean water flow rate: A 254mm (10") Fluorofil™ F45 single cartridge with 0.45μm microbial rating exhibits the flow-ΔP characteristics indicated below, for solutions with a viscosity of 1 centipoise.
- Other solutions: For solutions with a viscosity other than 1 centipoise, multiply the indicated differential pressure by the viscosity in centipoise.

